



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,613	01/30/2004	Dwight M. Smith	27435.002	6773
7590 Constance Gall Rhebergen Bracewell & Patterson LLP P.O. Box 61389 Houston, TX 77208-1389				
			EXAMINER	
			ZHENG, LOIS L	
			ART UNIT	PAPER NUMBER
			1793	
			MAIL DATE	DELIVERY MODE
			09/14/2009 PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/768,613

**Applicant(s)**

SMITH, DWIGHT M.

**Examiner**

LOIS ZHENG

**Art Unit**

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-20 and 33-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-20 and 33-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8 July 2009 has been entered.

### ***Status of Claims***

2. Claims 14, 35, 41 and 46 are amended in view of applicant's amendment filed 8 July 2009. Claims 1-10 remain withdrawn from consideration. Claims 11-13 and 21-34 are canceled. Therefore, claims 14-20 and 35-50 are currently under examination.

### ***Status of Previous Rejections***

3. Applicant's argument, see page 10 of applicant's remark and supporting documents Exhibits 3-4, filed 8 July 2009, with respect to undesirable foaming in an engine have been fully considered and are persuasive. Therefore, all previous rejections have been withdrawn.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14, 18-20, 35, 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butcosk et al. US 3,296,127(Butcosk).

Butcosk teaches application of a corrosion inhibiting lubricating composition to metal surfaces to protect the metal surface from corrosion(col. 1 lines 56-60), wherein a corrosion inhibiting composition comprising alkali metal phosphate such as monobasic or dibasic potassium phosphate(i.e.  $\text{KH}_2\text{PO}_4$  and  $\text{K}_2\text{HPO}_4$ )(col. 3 lines 58-61), alkali metal nitrite, and succinamic acid, is incorporated into a hydrocarbon containing base grease(col. 4 lines 43-50) to form the corrosion inhibiting lubricating composition(col. 2 lines 47-72). Butcosk further teaches that water is driven off during the preparation of the corrosion inhibiting lubricating composition(i.e. free of water)(col. 2 lines 47-72).

Regarding claims 14, 18-20, 35 and 39-40, Butcosk does not teach adding zinc or alcohol to the corrosion inhibiting lubricating composition(i.e. free of zinc and alcohol). The succinamic acid or the alkali metal nitrite as taught by Butcosk reads on the claimed carrier fluid and the base grease as taught by Butcosk reads on the claimed target fluid.

Even though Butcosk does not teach that the metal substrate is a steel alloy, Butcosk also does not limit the types of metal substrate for its lubricant composition. Therefore, one of ordinary skill in the art would have found it obvious to have applied the corrosion inhibiting lubricant composition to any steel surfaces, including the internal surface of a running engine with expected success.

In addition, since Butcosk's corrosion inhibiting composition is essentially the same as the claimed coating composition and Butcosk does not teach preparation of its

corrosion inhibiting lubricating composition is exothermic, the examiner concludes that the phosphate containing solution of Butcosk is mixed in the absence of a highly exothermic reaction as claimed.

Furthermore, since Butcosk teaches a corrosion inhibiting lubricating composition that has the same phosphate composition as claimed, the examiner maintains that the corrosion inhibiting lubricating composition of Butcosk is capable of creating a phosphate metal layer as claimed when applied to a metal surface, such as steel.

6. Claims 15, 36, 41, 44-46 and 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butcosk, and further in view of Chunat et al. US 4,060,433(Chunat).

The teachings of Butcosk are discussed in paragraph 5 above. However, Butcosk does not explicitly teach the claimed  $[\text{NR}_4]_2\text{HPO}_4$ , in the corrosion inhibiting composition.

Chunat teaches a process of phosphating a metal surface using a phosphating coating solution comprising monohydrogenphosphate(i.e. monobasic phosphate) and dihydrogenphosphate(i.e. dibasic phosphate)(col. 6 lines 21-27) salts of ammonium or monovalent metals(col. 10 lines 14-16), which implies that ammonium mono- and di-basic phosphates are functionally equivalent to alkali metal mono- and di-basic phosphates such as  $\text{KH}_2\text{PO}_4$  and  $\text{K}_2\text{HPO}_4$  of Butcosk.

Regarding claims 15, 36, 41, 44-46 and 49-50, it would have been obvious to one of ordinary skill in the art to have substituted some of  $\text{K}_2\text{HPO}_4$  in the corrosion inhibiting lubricating composition of Butcosk with  $[\text{NH}_4]_2\text{HPO}_4$  of Chunat with expected success.

The remaining claim limitations are rejected for the same reasons set forth in the rejection of claims 14, 18-20, 35 and 39-40 above.

7. Claims 16-17 and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butcosk, and further in view of Butcosk et al. US 3,293,179(Butcosk'179).

The teachings of Butcosk are discussed in paragraph 5 above. However, Butcosk does not explicitly teach the claimed ammonium acetate in the corrosion inhibiting composition.

Butcosk'179 teaches an improved grease composition that is substantially similar to the base grease of Butcosk and additionally contains ammonium acetate(col. 5 lines 55-64, Table V).

Regarding claims 16 and 37, it would have been obvious to one of ordinary skill in the art to have incorporated the ammonium acetate containing improved grease formulation as taught by Butcosk'179 into the base grease of Butcosk in order to achieve improved endurance life, low-temperature torque and antiwear properties as taught by Butcosk'179(col. 1 lines 10-14).

Regarding claims 17 and 38, Butcosk further teaches a pH of at least 7(col. 2 lines 56-57 and claim 1), which overlaps the claimed pH of 6-8. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed pH range from the disclosed range of Butcosk in view of Butcosk'179 would have been obvious to one skilled in the art since Butcosk in view of Butcosk'179 teach the same utilities in their disclosed pH range.

8. Claims 42-43 and 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butcosk in view of Chumat, and further in view of Butcosk et al. US 3,293,179(Butcosk'179).

The teachings of Butcosk in view of Chumat are discussed in paragraph 6 above. However, Butcosk in view of Chumat do not explicitly teach the claimed ammonium acetate in the corrosion inhibiting composition.

Butcosk'179 teaches an improved grease composition that is substantially similar to the base grease of Butcosk and additionally contains ammonium acetate(col. 5 lines 55-64, Table V).

Regarding claims 42 and 47, it would have been obvious to one of ordinary skill in the art to have incorporated the ammonium acetate containing improved grease formulation as taught by Butcosk'179 into the base grease of Butcosk in view of Chumat in order to achieve improved endurance life, low-temperature torque and antiwear properties as taught by Butcosk'179(col. 1 lines 10-14).

Regarding claims 43 and 48, Butcosk further teaches a pH of at least 7(col. 2 lines 56-57 and claim 1), which overlaps the claimed pH of 6-8. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed pH range from the disclosed range of Butcosk in view of Chumat and Butcosk'179 would have been obvious to one skilled in the art since Butcosk in view of Chumat Butcosk'179 teach the same utilities in their disclosed pH range.

***Response to Arguments***

9. Applicant's arguments filed 8 July 2009 regarding detrimental effect of water in an engine is not persuasive since Chumat teaches a solvent made of entirely hydrocarbon(col. 10 lines 26-28). However, this argument is moot because previous rejections based on Chumat have been withdrawn due to applicant's persuasive argument and supporting documents Exhibits 3-4 filed 8 July 2009 regarding undesirable foaming in an engine.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Evans et al. US 1,986,963 teaches a corrosion inhibiting composition for treating liquid contents of engines, comprising phosphates such as  $\text{NaH}_2\text{PO}_4$  and  $\text{Na}_2\text{HPO}_4$ , and tannic acid with a neutral pH.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LOIS ZHENG whose telephone number is (571)272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/  
Supervisory Patent Examiner, Art  
Unit 1793

LLZ